

**Table S2. Laboratory strains and mutants**

<i>S. pneumoniae</i> strains	characteristics	reference
PN111	D39Δcps	Rennemeier et al., 2007
PN259	TIGR4Δcps	Schulz et al., 2014
PN149	D39lux	Jensch et al., 2010
PN315	TIGR4lux	Schulz et al., 2014
<i>S. pneumoniae</i> mutants	characteristics	reference
PN407	D39ΔcpsΔrr08	This study
PN412	D39ΔcpsΔhk08	This study
PN308	D39ΔcpsΔtcs08	This study
PN408	TIGR4ΔcpsΔrr08	This study
PN652	TIGR4ΔcpsΔhk08	This study
PN344	TIGR4ΔcpsΔtcs08	This study
PN409	D39luxΔrr08	This study
PN414	D39luxΔhk08	This study
PN372	D39luxΔtcs08	This study
PN410	TIGR4luxΔrr08	This study
PN415	TIGR4luxΔhk08	This study
PN708	TIGR4luxΔtcs08	This study
<i>E. coli</i> strains	characteristics	reference
DH5α	Δ( <i>lac</i> )U169, <i>endA1</i> , <i>gyrA96</i> , <i>hsdR17</i> , Φ80Δ( <i>lacZ</i> )M15 <i>recA1</i> , <i>relA1</i> , <i>supE44</i> , <i>thi-1</i>	Novagen
BL21(DE3)	<i>E. coli</i> B, F- dcm <i>ompT hsdS gal λ</i> (DE3), T7 polymerase gene under control of the lacUV5 promoter	Stratagene